

KEEGAN WERLIN LLP

ATTORNEYS AT LAW
265 FRANKLIN STREET
BOSTON, MASSACHUSETTS 02110-3113

(617) 951-1400

TELECOPIERS:
(617) 951-1354
(617) 951-0586

August 17, 2006

Mary L. Cottrell, Secretary
Department of Telecommunications and Energy
One South Station
Boston, MA 02110

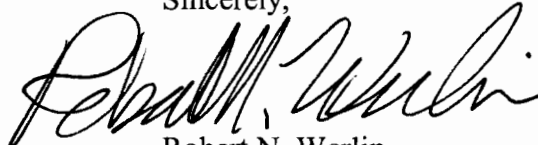
Re: NSTAR Electric Company, D.T.E. 06-40

Dear Secretary Cottrell:

Enclosed for filing in the above-referenced matter is Attachment CLC-1-15, which was inadvertently omitted from the response to the Information Request CLC-1-15, when the response was filed on August 3, 2006. We apologize for any inconvenience.

Thank you for your attention to this matter.

Sincerely,



Robert N. Werlin

Enclosures

cc: Service List

Reliability Need Determination Form
ISO New England – System Planning Department
Evaluation of Need for New Boston Unit 1
Date: July 21, 2006

GENERAL INFORMATION

- | | | |
|---|-------------------------------------|----------------------|
| 1. Unit Name/ID: | New Boston Unit 1 | Asset ID No. 505 |
| 2. Owner: | Exelon | |
| 3. Area Transmission Owner: | NSTAR | |
| 4. Capacity MW | Summer: 350.0 | Winter: 351.46 |
| MVAR | Lagging 224 / Leading 92 @ 350.0 MW | |
| 5. Location: | Town: Boston | State: Massachusetts |
| 6. Substation Connection: | K Street | |
| 7. RSP05 Planning Subarea: | Boston | |
| 8. Date of I.3.9 Application or Reliability Need Request: | May 9, 2003 | |

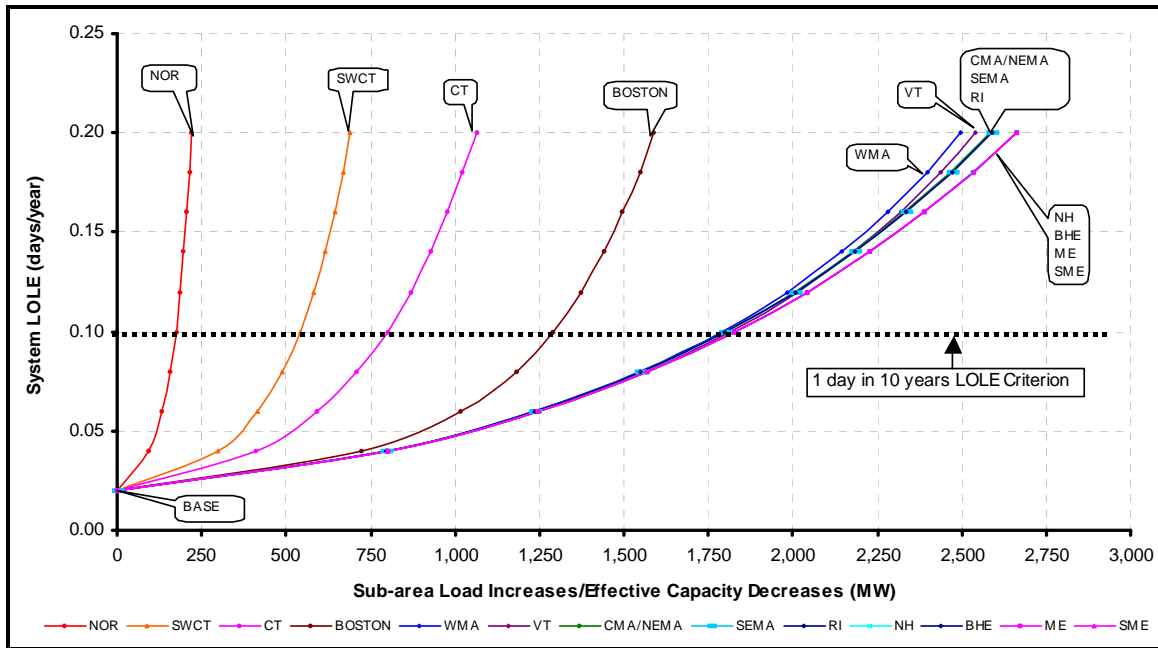
NEED for Generating Unit

9. Is the unit located in an Import-constrained Planning Sub-area?
 Yes: ✓ No:
 If Yes, is there a resource deficiency with the unit deactivated or retired?
 Yes: No: ✓
10. Is the unit needed for capacity in the Planning Sub-area where it is located?
 Yes No: ✓
 Reference: Figure 4.4 from RSP05 Report (attached) and Steady State Evaluation of the Reliability Need for New Boston Unit 1 (attached)
11. Is unit needed for local area transmission reliability support?
- | Thermal | Voltage | Stability |
|---------|---------|-----------|
| Yes | Yes | Yes |
| No: ✓ | No: ✓ | No: ✓ |
- Reference: Steady State Evaluation of the Reliability Need for New Boston Unit 1 (attached)

Summary of Evaluation of Need: The results of this review have demonstrated that there is no longer a reliability need for New Boston Unit 1 once Stage 1 of the NSTAR 345 kV Reliability Project is placed in service.

From RSP05 Report

Figure 4.4 System LOLE per change in MW of RSP subarea load—2006.



Steady State Evaluation of the Reliability Need for New Boston Unit 1

1. Executive Summary

ISO New England received a request for the deactivation of New Boston Unit 1, effective January 1, 2007. In addition to this request ISO New England has also re-evaluated the need for New Boston Unit 1 given the recent NSTAR 345 kV upgrades that are expected to be in-service by the summer of 2006. The response to this request was to re-examine previous studies and recalculate where applicable the quantified need for the units.

The need for the New Boston Unit 1 has been previously expressed in three categories of reliability:

- Operable Capacity
- Voltage Regulation
- Detailed Reliability Assessment

1.1. Conclusions

ISO New England has reviewed and re-evaluated the need for New Boston Unit 1. The review and evaluation was performed for the expected 2006 summer system conditions to address the continued reliability need and the expected 2007 summer system conditions to address the deactivation request. The expected 2006 summer system conditions include 2 cables of the NSTAR 345 kV Reliability Project (Stage 1), the North Cambridge 345-kV reactor, and the Lexington 345-kV reactor.

Considering expected 2006 and 2007 summer conditions, the results of this evaluation have demonstrated that there is no longer a reliability need for New Boston Unit 1 once Stage 1 of the NSTAR 345 kV Reliability Project is placed in service.

2. Boston Import Area Operable Capacity/Area Transmission Requirement Assessment

The operable capacity/area transmission requirement assessment is a simplified approach that examines the capability of static transmission interface transfer limits, as a coarse but reasonable representation of transmission system capability, to serve Boston Import Area load with available resources. A simple spreadsheet balancing approach is used to assess the amount of capacity to be committed day ahead to adequately withstand the loss of the largest unit or the loss of the second most critical transmission element after the occurrence of the first most critical contingency. This is similar to the technique used by ISO New England Operations to determine generation unit commitment for the operation of the system the next day. The assessment includes an evaluation for each of the following contingency conditions:

- After the loss of the largest unit, the loss of the most critical transmission element
- After the loss of the most critical transmission circuit, the loss of the next most critical transmission circuit

2.1. Loss of Transmission Line and Largest Unit

Table 1 illustrates the 90/10 Load Forecast BOSTON Import Area Operable Capacity situation for the loss of the largest unit and the loss of the most critical transmission element. Table 1 shows a surplus of 473 MW without New Boston 1 in the summer of 2006. This would decrease slightly by approximately 30 MW in 2007.

Table 1
Capacity Assessment - Loss of a Generator and a Transmission Element

Capacity Situation (Summer MW)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Load (Extreme Forecast)	5,820	5,850	5,960	6,090	6,210	6,350	6,470	6,570	6,660	6,740
Reserves (largest unit)	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Total Requirement	7,020	7,050	7,160	7,290	7,410	7,550	7,670	7,770	7,860	7,940
New Boston										
Mystic 7	555	555	555	555	555	555	555	555	555	555
Mystic 8	682	682	682	682	682	682	682	682	682	682
Mystic 9	678	678	678	678	678	678	678	678	678	678
Other Boston Area Units	1,323	1,323	1,323	1,323	1,323	1,323	1,323	1,323	1,323	1,323
Capacity	3,237	3,237	3,237	3,237	3,237	3,237	3,237	3,237	3,237	3,237
Assumed Unavailable Capacity	184	184	184	184	184	184	184	184	184	184
Mystic 8 and 9 Capacity > 1,200 MW	160	160	160	160	160	160	160	160	160	160
Total Net Capacity	2,893	2,893	2,893	2,893	2,893	2,893	2,893	2,893	2,893	2,893
2007 Import Limit	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
Total Available Resources	7,493	7,493	7,493	7,493	7,493	7,493	7,493	7,493	7,493	7,493
Operable Capacity Margin	473	443	333	203	83	(57)	(177)	(277)	(367)	(447)
NSTAR 345 kV Transmission Reliability Project Phase II Incremental Import Capability			300	300	300	300	300	300	300	300
Total Available Resources with Phase II			7,793	7,793	7,793	7,793	7,793	7,793	7,793	7,793
Operable Capacity Margin with Phase II			633	503	383	243	123	23	(67)	(147)

2.2. Non-Simultaneous Loss of Two Transmission Elements

Table 2 below illustrates the 90/10 Load Forecast BOSTON Import Area Operable Capacity situations for the non-simultaneous loss of the two most critical transmission elements. Table 2 shows a surplus of 278 MW without New Boston 1 in the summer of 2006. This would decrease slightly by approximately 30 MW in 2007.

Table 2
Capacity Assessment - Loss of Two Transmission Elements

Capacity Situation (Summer MW)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Load (Extreme Forecast)	5820	5,850	5,960	6,090	6,210	6,350	6,470	6,570	6,660	6,740
Reserves (largest unit)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Requirement	5820	5,850	5,960	6,090	6,210	6,350	6,470	6,570	6,660	6,740
New Boston										
Mystic 7	555	555	555	555	555	555	555	555	555	555
Mystic 8	682	682	682	682	682	682	682	682	682	682
Mystic 9	678	678	678	678	678	678	678	678	678	678
Other Boston Area Units	1323	1,323	1,323	1,323	1,323	1,323	1,323	1,323	1,323	1,323
Capacity	3,237	3,237	3,237	3,237	3,237	3,237	3,237	3,237	3,237	3,237
Assumed Unavailable Capacity	279	279	279	279	279	279	279	279	279	279
Mystic 8 and 9 Capacity > 1,200 MW	160	160	160	160	160	160	160	160	160	160
Total Net Capacity	2,798	2,798	2,798	2,798	2,798	2,798	2,798	2,798	2,798	2,798
2007 Import Limit	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300
Total Available Resources	6,098	6,098	6,098	6,098	6,098	6,098	6,098	6,098	6,098	6,098
Operable Capacity Margin	278	248	138	8	(112)	(252)	(372)	(472)	(562)	(642)
NSTAR 345 kV Transmission Reliability Project Phase II Incremental Import Capability			400	400	400	400	400	400	400	400
Total Available Resources with Phase II			6,498	6,498	6,498	6,498	6,498	6,498	6,498	6,498
Operable Capacity Margin with Phase II			538	408	288	148	28	(72)	(162)	(242)

3. Voltage Regulation

The “Boston Import Area Operations Planning Guide and Operations Guide” describe the unit commitment procedures to control high voltages during light load periods. A point system is used to commit resources to meet the static VAR needs of the system. A review of the point system shows that sufficient light load voltage control can be achieved with available transmission system elements and the Mystic generators. In the event that operators are unable to control light load voltages without New Boston, cable switching may need to be implemented.

4. Detailed Reliability Analyses

In addition to addressing Operable Capacity of the Boston Import Area and Voltage Regulation concerns, a complete evaluation of New Boston Unit 1 must also include a

detailed evaluation of system performance under various contingency conditions to ensure that internal system constraints are not ignored.

Consistent with other reliability determinations, the contingency analysis has been performed with the unit of concern, New Boston Unit 1, out of service coupled with a forced outage of another unit in the area. Generally, this analysis would only be done with a forced outage of the largest generator in the area. However, due to the varying interconnection points for the Mystic units and the possibility of a simultaneous loss of Mystic 8 and 9, three different dispatches were considered in this evaluation. The three dispatches were:

- New Boston and Mystic 9 out of service
- New Boston and Mystic 8 out of service
- New Boston and Mystic 7 out of service

The three conditions described in the list above established three base cases upon which contingencies were simulated. In the case where New Boston and Mystic 7 were initially out of service, the tested contingencies also included the simultaneous loss of Mystic 8 and 9.

This evaluation was performed using the 2006 summer 90/10 load forecast and was repeated for the summer of 2007 using the 90/10 load forecast. The results from the 2006 and 2007 testing were similar to each other and do not require separate narrative.

4.1. Thermal Results

While all three dispatches produced similar results, the dispatch where New Boston and Mystic 9 were out of service produced the largest overloads. Overloads that were on radial lines or outside the area of interest were disregarded and the remaining overloads are discussed below.

The S145 and T146 lines from Salem Harbor to Railyard have been shown to overload when the parallel line is removed from service. These overloads can be mitigated through a reduction in generation at Salem Harbor.

Portions of the 282-520 and 282-521 lines (Brighton – Watertown – Waltham) overload for a simultaneous loss of the 282-602 (Waltham – West Medway) and the 433-507 Speen Street – Leland Street). Since these overloads are associated with a double circuit tower contingency that does not result in inter-Area impact, no further investigation was required. However, additional testing has shown that the operation of New Boston does not help to alleviate the overloads.

4.2. Voltage Results

With the New Boston generator removed from service, there were no voltage violations that affect the operation of the transmission system.

5. Conclusions

In response to the request for deactivation of New Boston Unit 1 and the upcoming energization of the NSTAR 345 kV Reliability Project (Stage 1), ISO New England has re-evaluated the need for New Boston Unit 1. This evaluation specifically considered operable capacity/area transmission requirements for the Boston Import Area, high voltage control, and detailed contingency analysis for the summer of 2006 and 2007. The results of this evaluation have demonstrated that there is no longer a reliability need for New Boston Unit 1 once Stage 1 of the NSTAR 345 kV Reliability Project is placed in service.